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U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY.—BULLETIN 129.
A. D. MELVIN, CHIEF OF BUREAU.

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ITTLE BREEDERS' ASSOCIATIONS IN DENMARK.

BY

FREDERIK RASMUSSEN,
Professor of Dairying, New Hampshire College of Agriculture and Mechanic Arts.

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LETTER OF TRANSMITTAL.

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., September 28, 1910.

SIR: I have the honor to transmit herewith a manuscript relating to the cattle breeders' associations and the dairy industry in Denmark, by Frederik Rasmussen, professor of dairying at the New Hampshire College of Agriculture and Mechanic Arts. The paper was written as a result of a personal visit to Denmark, together with the consultation of official reports and with cattle experts in that country.

The highly specialized nature of the dairy industry in Denmark, as well as its undoubted success, as evidenced by the high appreciation of Danish products on the British market, are well known. Although it may not be practicable or desirable in this country to follow in all respects the Danish plan and methods of organization, some of the features can probably be advantageously applied, with or without modification, to our conditions, and the information contained in the paper will undoubtedly be of value to our dairymen and to others who may be interested. I therefore respectfully recommend the publication of the article in the bulletin series of this Bureau.

Respectfully,

A. D. MELVIN,
Chief of Bureau.

HON. JAMES WILSON,
Secretary of Agriculture.

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CATTLE BREEDERS' ASSOCIATIONS IN DENMARK.

BRIEF HISTORY OF THE DANISH CATTLE INDUSTRY.

During the first half of the nineteenth century Denmark was a grain-producing country. Agricultural success was measured by the raising of crops from a soil still rich in natural fertility. This for awhile was made possible by better drainage, by a rotation of crops, by treating the soil with lime or marl, and by the use of improved agricultural implements. However, it was inevitable that a system of farming in which no efforts were made to retain or add to the fertility of the soil would sooner or later become unprofitable. The live-stock industry at this time was of secondary importance. Although a few cattle were kept on nearly every farm, they received very little attention. They were pastured in summer, and as it was thought unprofitable to feed grain the stock was fed in the winter time entirely on hay and straw, especially the latter. Such treatment was very detrimental to young animals, and as in addition no systematic method of breeding was carried out, the type of cattle was retrograding instead of improving.

Later on, when it became manifest that owing to the lack of farm manure the soil was being gradually deprived of its fertility and its power to produce profitable crops, the live-stock industry began to grow in importance. The local conditions favored its development along two lines. In the main portion of Jutland the beef industry first became of greatest importance, while on the islands—Funen, Zealand, and others—the effort was directed toward the production of dairy products.

Prior to 1850 the general method in use to dispose of cattle in Jutland was to sell the steers as feeders when from 4 to 7 years old, to be fattened on the marshes along the coast of Holstein. In the year 1864 a permanent direct steamship line was established between Jutland and England, and instead of selling the steers as feeders they were fattened on the large Danish farms. The increased demand for beef at higher prices started considerable importation of Shorthorn cattle from England, to be crossed with the native stock for development of better beef qualities. The first cross was very promising, the result being a better beef form, as well as earlier maturity. But

when the farmers began indiscriminately to mate cross-bred animals of second and third generations and at the same time did not fulfill the requirements in the way of feed and care demanded by the Shorthorns, a retrogression instead of an improvement was the result. The danger of this method of breeding was soon realized by some of the leading agriculturists. They also began to realize that the Jutland cattle, when properly fed and cared for, had good qualities which formerly had been overlooked, and in some places the Jutland breed was kept pure. In 1881 definite steps were taken to preserve this breed by appointing a live-stock commission for its preservation and improvement.

The importation of Shorthorn cattle had an important effect on the development of the cattle industry in Denmark, not so much by an infusion of blood, but by giving the farmers an ideal as to form and teaching them the importance of good feed and care in the rearing of cattle.

The English market demanded butter as well as beef, and after a time this had its influence on the development of the Jutland cattle. Although the beef qualities at first were considered of greatest importance, stress was afterwards laid on the milking qualities and for a time efforts were directed toward the development of a dual-purpose breed. As it proved to be difficult, if not impossible, to fix both the milk and beef producing tendencies in the animals so that both could be transmitted with certainty, this effort was abandoned. However, many people began to consider the milking qualities in the animal of greater importance than the beef qualities, and steps were taken to develop the Jutland cow as a dairy animal. But the majority of people continued to breed for beef, as is shown by the steady increase in the importation of Shorthorn cattle until about 1876, the result of which has already been discussed.

In 1860 the first "dairy counselor" was appointed by the Royal Danish Agricultural Society, and the time from 1860 to 1880 marks the period of transition from beef to milk production. During this period the main topic for discussion in the agricultural press and at meetings was the relative profit in the production of beef and butter. The profits in these two systems were often expressed by comparing the cost at which the manure was obtained. For instance, a report from Gjedsergaard in 1865 showed that where dairying was carried on the cost of the manure represented only 2.5 per cent of the value of the feed consumed (the cows being fed liberally), while in the case of feeding for beef it represented 14 per cent. This statement also illustrates that the manure was considered a very important factor in connection with the cattle industry and that the farmers fully realized the value and necessity of the manure in the production of crops on a worn-out soil.

Fig. 1.—Bull, Elkjaer Hovding, 4½ Years Old. Herdbook No. 1442.

Fig. 2.—Cow, Herdbook No. 55.

JUTLAND BREED OF CATTLE.

FIG. 1.—KNUD LOMBJERGE, BULL, HERDBOOK NO. 16.

FIG. 2.—COW, HERDBOOK NO. 229.

RED DANISH CATTLE.

Although the period from 1850 to 1880 shows a marked improvement in the cattle industry in Denmark, this was due to better methods of feeding rather than to a systematic application of the principles of breeding. There were very few farmers who understood the importance of the bull in the improvement of the breed, and the nearest and cheapest bull was, as a rule, considered the best. In some sections the farmers took turns in keeping what was called the "town bull," each man keeping a bull for the use of his neighbors for a year. These bulls seldom reached an age of over 2 years, and were thus disposed of before they were fully developed and before their breeding value had been determined. More care was taken in the selection of the heifer calves for breeding purposes; they as a rule were selected from what were supposed to be the best cows; but in regard to milk production this was simply a chance selection, for very few people kept records.

THE NATIVE BREEDS OF CATTLE IN DENMARK.

The Jutland breed has already been referred to as being native to the mainland of Denmark. The other native breed, the Red Danish, is indigenous to the islands. The cattle in Jutland were in earlier days known for their beef qualities, especially the excellent quality of meat they produced, while the cattle on the islands had superior milking qualities.

The characteristic color of the Jutland breed is black and white, a few, however, being gray and white. (See Pl. I, figs. 1 and 2.) Although the color and to some extent the general appearance would indicate the breed to contain some Holstein-Friesian blood, no historical references could be found by the writer to that effect. The origin of the breed seems unknown, and, as one writer states, it is "native to the soil." In the period from 1820 to 1850 efforts were made to improve the Jutland cattle by an infusion of new blood, and animals were imported from Tyrol, Switzerland, England, and Holstein (those from the latter place were not the Holstein-Friesian breed, but a red breed of cattle). However, this crossing did not result in an improvement of the Jutland cattle and was therefore discontinued.

The Red Danish cattle (Pl. II, figs. 1 and 2) are found in southern Jutland and on the islands of Funen, Zealand, and some of the smaller islands. The native stock which forms the basis for the Red Danish breed is different from the native stock from which the Jutland breed originated. As the name indicates, the color of the cattle is red. At the time when efforts were made to cross the native cattle of Jutland with the cattle from Tyrol and Switzerland similar attempts were made to use these breeds to improve the native stock on

the islands. Furthermore, at this time cattle were also imported to the islands from Scotland (Ayrshire) and Schleswig. Most of these imported breeds, however, have had very little influence upon the development of the Red Danish cattle. The Red Danish cow may be said to be a cross between the native stock of the islands and the Angler (from Angeln in Schleswig) and other strains of cattle imported from Schleswig. The climatic condition of the islands and of Schleswig are practically the same. The imported cattle, although in several respects resembling the native stock on the islands, had superior milking qualities, but were hardly as rugged in constitution. The result of this crossing has been the development of a new and better breed.

ORGANIZATION OF CATTLE BREEDERS' ASSOCIATIONS.

The first cattle breeders' association was formed in 1874. The object of this association was to keep pure and improve the Jutland breed by the use of purebred bulls. Eleven purebred bulls were bought and placed on different farms in the community. Few of the farmers, however, fully realized the value of the purebred bull in improving the herd; others expected greater results than could be accomplished in the course of two or three years, while the Government, although encouraging the movement, made no special provision for the aid or support of such organizations. Under these conditions probably the worst mistake made was to start the association on so large a scale; that is, with too large a territory, too large a membership, and too many bulls under one management. The farmers were not in close enough contact with one another, and it was a difficult task for the management to suit all the members in buying and placing the bulls as well as in other work which necessarily had to be left in the hands of a few. The result was that the farmers gradually lost interest in the work, and the association was dissolved in 1878. One of the principal reasons for the success of the smaller associations, as started later, is that the members are in closer contact with each other, giving frequent opportunities for discussing the work, and also that a greater number of them have an active part in the work of the association, thus securing recognition and assuming responsibility, which are two very important factors in bringing out the best results.

In 1881 a second association was formed. In this association the selection of bulls was made of more importance than previously, as shown by a paragraph in the by-laws pledging the members to use on all cows from which calves were to be reared only such bulls as had been passed on by a judging committee.

The increase in the number of associations was slow until 1887, after which rapid progress took place in all parts of the country. About 1889 the associations in some localities began to combine under

one management, the object being to foster cooperation between the local and the state agricultural organizations and to get a state representative for the cattle breeders' associations. Soon after, some of the agricultural societies offered to join forces with the joint cattle breeders' association, and a common representative management was agreed upon. An expert agricultural counselor was, as a rule, appointed by the joint associations, who also frequently acted as secretary for the organization.

There were 1,095 cattle breeders' associations in operation in 1906, owning 1,369 bulls and having a total membership of 26,200. All of these associations received government aid. In addition there were at least 30 more in operation which did not receive any assistance from the Government.

COW-TEST ASSOCIATIONS.

The minutes of a meeting of cattle breeders' associations in the district of Kolding in 1894 states that discussions took place in regard to having regular fat determinations made of each individual cow's milk to aid in the selection of good breeding animals. However, no definite steps were taken to carry out this work, and in 1895 the first cow-test association was formed in Vejen, largely through the efforts of members of the cattle breeders' associations. A rapid increase in cow-test associations followed, and it soon became evident that these associations made it unnecessary for the testing of cows to be taken up as part of the work of the cattle breeders' associations. In fact, the records of the cow-test associations became the foundation and guide for the work of the cattle breeders' associations, and it was natural that the former soon were drawn under the common management which already existed for the cattle breeders' associations and the agricultural societies.

DUTIES OF EXPERT COUNSELOR.

As has been stated, these common-management organizations employed an expert counselor. The following rules, quoted below, laid down by the common management for the district of Kolding, will make clearer the scope of his work:

1. It is the duty of the expert to work for the advancement of the cattle breeders and the test associations under the common management:

(*a*) By taking part in meetings and fairs.

(*b*) By assisting in the selection of cows for the various cattle breeders' associations.

(*c*) By giving lectures as arranged with the presidents of the official associations.

(*d*) By attending state and other shows considered of importance in connection with his work.

(*e*) By assisting in the organization of cow-test associations, and, when necessary, helping the associations in making out yearly reports.

(*f*) By assisting the individual members in the association as much as time permits.

(*g*) By taking charge of the keeping of herd books for herds under the common management, after arrangement with its committee.

2. The expert works under the direction of the president of the common management, discussing with him the details of the work. It is his duty in every way to further the development of the cattle breeders' association and cow-test associations. He also receives information from breeders within as well as outside the district of the common management in regard to bulls of good breeding that are for sale, enabling him to direct prospective buyers. But the expert must in no way have personal financial interest in the sale of breeding animals.

3. It is also the duty of the expert to assist the agricultural societies in arranging catalogues for fairs and similar work.

4. Each year, before May 1, the expert gives a written report of his work for the past year.

WORKING DETAILS OF CATTLE BREEDERS' ASSOCIATIONS.

Owing to the necessity of first describing the general character of the cattle breeders' associations and the gradual changes and broadening of the movement, little has been said so far in regard to the details of the work and the aim of these associations. They are local organizations, with a membership of from 4 to 60, the average being about 24. The aim of the organization is to produce a rapid improvement and development of the cattle in the community by the purchase of one or more bulls of recognized breeding. As the members of the association generally own more cows than this bull or bulls can serve, a local judging committee is appointed, which, together with the expert employed by the common-management association, visits each member and selects a number of cows worthy to be bred to the association bulls, in proportion to the size of his herd and the total number of cows in the association.

The bull is, as a rule, stationed with the member who submits the lowest bid for keeping him, the price varying from 200 kroner ($53.60) to 335 kroner ($89.78) per year.[a]

Further improvement in the cattle is to be obtained by periodical inspection of the herds, by advice in regard to the rearing of young stock, by compulsory exhibiting at association shows, and by taking part in county and government shows.

[a] One krone=26.8 cents in United States money, which makes $1=3.73 kroner. In the remainder of this bulletin only the American equivalents of stated sums are given, except in the Appendix, consisting of quotations from Danish documents, where the Danish amounts are shown as well.

The by-laws of the associations under common management for the island of Funen, given in the Appendix, are the result of the experience in this work up to the present time. They explain several details of the work of the association and show the thoroughness of the organization. Although these laws govern only a certain district, yet those of other districts in the country for both the Jutland and the Red Danish breeds of cattle are almost identical, so they can be taken as representative of those for the whole of Denmark.

METHOD OF FINANCING AN ASSOCIATION.

The principal items of expense in starting an association are the cost of the bull and the necessary books and blanks for keeping records. To cover these expenses a loan is obtained, for which each member is responsible in proportion to the number of cows he has registered in the association. In this way the individual members do not have to furnish the necessary funds for starting the enterprise, and thus it is possible for farmers with small means to participate. To protect the association from losses which might be incurred by accident, sickness, or death, valuable bulls are, as a rule, insured in special cooperative insurance companies.

The revenue for the maintenance of the association is derived from membership fees, service fees of the bull, the government aid, which averages $40.20 per annum for each bull belonging to the association, and the income from premiums at fairs and shows.

GOVERNMENT AID AND SUPERVISION.

Government aid and supervision have been very important factors in the development of the Danish cattle industry, especially since 1902, when the laws relative to the promotion and breeding of domestic animals were revised, making provision for additional appropriations and support for the cattle breeders' associations. (See Appendix for details.)

The following is a statement of the government appropriation in 1906 for the promotion of breeding and keeping of domestic animals:

Premiums at agricultural association shows	$29,480
Premiums at the breeding association shows under common management	5,360
Premiums for government stallion shows	20,100
Premiums for government bull shows	20,100
Horse-breeding associations	32,160
Cattle breeders' associations	37,520
Swine breeders' associations	1,072
Sheep breeders' associations	1,340
Cow-test associations	20,100
Salaries to association experts	8,040

For competitive dairy test	$6,700
Breeding centers for swine	12,060
Publishing herd books	5,360
Miscellaneous institutions for the improvement of domestic animals	10,720
Government show commissions	10,318
For the eradication of certain contagious diseases and to prevent the spread of tuberculosis	53,600
Total	274,030

The total state appropriations for the promotion of agriculture amounted to $1,120,930. This is a very large sum of money when compared with the appropriations by our Federal and State governments for similar work. It should be considered also that Denmark is a very small country, only a little over one-fourth the size of the State of Iowa, although the population is slightly larger—about 2½ millions. Furthermore, much more can be accomplished for this sum of money in Denmark than can be accomplished for a similar amount in the United States. For instance, the average wages of 106 assistants in charge of the test association on the island of Funen in 1906 was about $120 per year. The state appropriation for a cow-test association is $67. Thus a little over one-half of the assistants' wages was paid by the State.

One striking feature of the state appropriations, which is also alluded to elsewhere, is that of giving in proportion to the interest shown in the enterprises undertaken by the various associations. The fact that the State distributes money in proportion to the amount the breeding associations or agricultural societies themselves can produce is an incentive for the associations to raise as much money as possible and helps greatly to keep up interest in the work.

It must not be understood, however, that the Government controls all the agricultural associations receiving government aid. Although there is a well-regulated supervision of government money expended, it is a supervision which is optional to the cattle owners. The farmers, in forming cooperative associations and accepting the government aid, voluntarily put themselves under its supervision. As has already been mentioned, there were in Denmark in 1906, besides 1,095 breeding associations receiving government aid, 30 cooperative breeding associations which did not receive government aid, and consequently were not subjected to government supervision. The Government does not try to force its supervision upon the cooperative societies, neither does it try to discourage or check individual enterprise. The great advancement in cooperation has come from the people themselves. They have felt the need and benefit of cooperation. Each community seems to have furnished its own leaders and organizers, of whom many have spent a great deal of their own time and money in fostering the spirit of cooperation and in getting the

people to see that the welfare of a country or of a community is bound up in the success and welfare of all its individuals and not in the success of a few. The Government has in a wise manner encouraged cooperative enterprises and rendered them stable. It has guided, aided, and bound together the organizations which served the best interests of all, so that they have become powerful agencies in the developing of the agricultural resources of the country and in promoting the welfare of its inhabitants.

Besides the large amount of money set aside by the Government for premiums at fairs and shows, as well as other appropriations which indirectly benefit the cattle breeders' associations, the direct appropriation for these associations in 1906 was $42,880. As before intimated each eligible association receives an amount varying from $34.84 to $45.56 per bull yearly, according to a classification adopted by the common management in which the good qualities of the bull and the work of the association in general are considered. (For details see section 14 in the Appendix, p. 36.)

Additional aid to the extent of from $13.40 to $40.20 may be obtained by breeding associations for special work in developing good families. Furthermore, if the association employs an assistant to keep records of the yield of milk and butter fat and the food consumed by the individual cows in the herds, it can be recognized as a cow-test association and receive an additional aid of $67 a year.

The aid to the cattle breeders' associations is apportioned by the minister of agriculture. The individual association applies for government aid through its common-management association, which refers the application to a still higher common management, the latter representing also the cow-test associations and agricultural societies for the district. This body considers the application and recommends to the department of agriculture. Associations receiving government aid are at all times subject to government inspection.

ELIGIBILITY FOR GOVERNMENT AID.

In order to be eligible for government aid the cattle breeders' associations must have their by-laws approved by the minister of agriculture. The by-laws must contain provisions to the effect that the cows of the members shall be selected under the proper supervision, that the bull shall be examined twice a year by a veterinarian, and that the herds shall be inspected on the farms at least once a year by the board of directors or a committee of its members. Before government aid will be granted for a specified bull he must have received a premium or "recognition money" at a government show or at a breeding-association show supported by the government.

In explanation of the phrase "recognition money," it should be stated that at these shows, in addition to the regular premiums distributed, a certain sum of money is distributed among the bulls which do not receive premiums, but which are considered worthy of recognition as good bulls. This is called "recognition money."

A bull to be eligible for government aid must, furthermore, win a premium every year at a breeding-association show until such time as his offspring receive premiums; or, after having reached the age of 3 years, he must at least be found worthy of a premium at a government show unless special conditions should make it impossible to put the animal on exhibition, in which case the fact must be certified to by the chairman of the district show. No aid shall be granted before the bull reaches the age of $1\frac{3}{4}$ years, and then only as long as he shall be in possession of his full breeding capacity.

In case a bull is sold, the government aid can be retained if the association, within two months after the sale, buys another bull meeting the above-named requirements.

The Government not only requires certain eligibility rules before granting aid, but after this is done it also requires a complete report from each association at the end of the year, giving detailed information concerning the bull, the cows, and their offspring, and the financial condition of the association. This supervision keeps the Government in touch with the results and progress of the work in all parts of the country. It gives an opportunity for comparison between individual associations, which often yields much valuable information in regard to the success of the work. Furthermore, the fact that a very detailed report is required once a year means that all records and books of the association are completed at that time, which helps to eliminate to some extent the not uncommon carelessness of secretaries and treasurers of local organizations where promptness is not compulsory.

The following blanks used for making application for government aid and for making yearly reports will illustrate the extent and details of the government supervision:

APPLICATION BLANK FOR GOVERNMENT AID TO CATTLE-BREEDERS' ASSOCIATIONS.[a]

Name of breeding association: ———.
Name of common management association: ———.

[a] A copy of the laws of the association must accompany the application. If all associations under the same common management have uniform laws, one copy will suffice for all the associations.

To the Department of Agriculture:

The breeding association of ——— in ——— province hereby applies for government aid for the keeping of the association bulls, according to law relating to domestic animals of May 23, 1902.

The association was formed the ———, and has to-day —— members, with —— selected cows. The association has subordinated itself to the common management of the ———, the declaration of which will be found on the opposite page.

The bull belonging to the association is of the ——— breed, is named ———, was born in the month of ———, in the year ——, with ———, and was purchased at a price of ———, of which ——— was cash and ——— on time. Its pedigree will be found on the third page. It has been owned and utilized by the association since ———, and has received premiums at the following shows (name the circuit):

Government shows.	Year.	Prize.	Breeding-association shows.	Year.	Prize.

Certificate of the veterinarian relating to the health and breeding capacity of the bull will be found on next page.

Concerning the work of the association during the current fiscal year, the following information is rendered: [If the association has changed bull since the last 1st of April, it must be stated when and for what reason the former bull was sold.]

The breeding association of ———, the ———, 190—.

(Signature of president) ——— ———, *President.*

P. O. address ——— ———.

VETERINARIAN'S CERTIFICATE.

The undersigned has to-day examined the above-named cattle-breeders' association bull, named ———, and found it healthy, and particularly not suffering from any disease liable to be transmitted by service, and in possession of its breeding capacity.

———, the ———, 190—.

(Signed) ——— ———,
Authorized veterinarian.

Indorsement of the chairman of the common management:

This application is recommended.

———, the ———, 190—.

(Signature) ——— ———,
Chairman of ———.

REPORT TO BE SENT TO THE DEPARTMENT OF AGRICULTURE ON THE WORK OF CATTLE BREEDERS' ASSOCIATIONS RECEIVING GOVERNMENT AID.

To the DEPARTMENT OF AGRICULTURE.

REPORT

for the year from April 1, 190—, to March 31, 190—, from ——— cattle breeders' association, subordinated to ——— common management.

Questions.	Answers.
I. THE ASSOCIATION.	
1. When was the association formed?	
2. How many members had the asso-tion March 31, 190—?	
3. How many members are also members of a cow-test association?	
II. INFORMATION CONCERNING THE BULL OWNED BY THE ASSOCIATION MARCH 31, 190—, AT THE END OF THE FISCAL YEAR.	
1. Name of bull?	
2. Breed of bull?	
3. When born?	
4. Where born?	
5. Where reared?	
6. When bought?	
7. The price paid for the bull? (The amount on time stated separately.)	
8. When and where did the bull last receive a premium, and what amount?	

Questions.	Answers.
III. Other Information Concerning the Bull.	
9. How many selected cows did the bull serve during last fiscal year?	
10. How many calves were dropped last fiscal year by cows served by the bull?	
11. How often, in the course of the year, has the bull been examined by a veterinarian, and at what times?	
12. With whom is the bull stabled? (Name and post-office address.)	
IV. The Cows.	
1. How many selected cows did the association have March 31, 190—?	
2. Who selected the cows?	
3. Are the selected cows marked?	
4. Are the selected cows divided into classes? How many in each?	
5. Have the herds of the members been examined at their farms by direction of the management? Who made the examination? When was it made?	
6. How many cows, all told, are owned by the members?	
7. How many cases of abortion occurred with one or more of the members of the association?	
8. Has a collective examination of the selected cows been made during the year? When and where?	
9. What service fee has been charged?	

Questions.	Answers.
V. The Offspring.	
1. Has the offspring of the selected cows been collectively examined by the management of the association? If so, when and where?	
2. What is their opinion about the offspring on the whole?	
3. Is the offspring marked according to a certain system?	

VI. Other Remarks.

(If the association, in the course of the year, has changed bull, information concerning the time and reason should be given here.)

Account for the year from April 1, 190—, to March 31, 190—.

EXPENSES.			REVENUE.		
1. Deficit from last year.....			1. Cash from last year.....		
2. For feeding bull.....			2. Service fees.....		
3. Insurance of bull.....			3. Prizes.....		
4. Veterinarian.....			4. Government aid for the year.....		
5. Exhibition of bull.....			5. Other revenue.....		
6. Interest.....					
7. Payments.....					
8. Other expenses.....					
Cash at end of year.....			Deficit at end of year...		
Total expenses.....			Total revenue.....		
Debt of the association March 31, 190—.....					
Property of the association March 31, 190— (value of bull not included).					

———, breeding association ———, 190—.

(Signed) ——— ———, *President.*

———, *Residence.*

———, *P. O. address.*

VALUE OF SHOWS AND FAIRS.

Although the value of shows and showing may be questioned by some, it is the opinion of the Danish experts and the majority of the farmers that cattle shows and fairs have been a very important factor in developing the cattle breeders' associations as well as the whole cattle industry. As early as 1810 premiums for bulls were distributed in a few sections, but not until after 1852 did the practice become general throughout the country. In 1852 the Government appropriated $4,073.60 for the yearly distribution of premiums for live stock at fairs and shows. That the Government has considered this money well expended is shown by the gradual increase in the amount appropriated for such purposes, until in 1906 it reached $85,358.

The shows have gradually increased in number as well as in exhibits and attendance. People have come to appreciate more and more the educational benefit of showing, and the efforts of the Government and the management of the shows are directed toward making them as educational and of as much practical value to the people as possible.

The shows may be classified as follows:

1. Agricultural-association shows.
2. Shows of breeding associations under common managements.
3. Government bull shows.
4. Shows for young stock.
5. Agricultural conventions.

The agricultural-association shows get an annual subsidy from the Government equal to the amount the associations themselves appropriate for premiums for breeding animals. The shows of breeding associations under common management get twice the amount they themselves contribute for prizes. The government bull shows, which are more fully described in the succeeding chapter, get an annual appropriation, varying according to the recommendation of the bull-show commission.[a]

The first show for young stock was held in 1892. The aim of this show was to get together the best of all the young stock of all breeds from the whole country. In the development of the breeds the aim had been the fixing of certain characteristics. The bringing together of the young stock would afford an opportunity to study uniformity of development, as well as giving the best animals from the different show circuits an opportunity to compete against each other. These shows have now become annual affairs and are held in different locations each year, so as to make them as educative as possible. The number of entries and visitors has increased from year to year, for

[a] For details in regard to distribution of premiums see sections 1, 2, 4, p. 33, in Appendix.

besides the educational value the shows have also come to be of considerable importance as a place to sell and buy breeding stock.

Agricultural conventions are held from time to time. The principal object, as far as the cattle industry is concerned, is the same as for the yearly shows of young stock, except that animals of all ages are shown.

GOVERNMENT SHOW COMMISSIONS AND BULL SHOWS.

The government show commission is a body of men appointed by the minister of agriculture, who supervises all the fairs and shows receiving state aid for premiums. The country is divided into thirteen districts, or circuits, in each of which is a bull commission. The chairman of this commission is appointed by the minister of agriculture and is a member of the government show commission, the rest of the members of the commission being appointed upon the recommendation of the agricultural societies in the district.

In 1906, $20,100 was appropriated for premiums at government bull shows, for bulls over 3 years old and in possession of full breeding power. In each of the thirteen show districts is held one or more annual bull shows, which, as a rule, are held in connection with other agricultural association shows. The amount of money appropriated by the government for premiums is distributed by the minister of agriculture among the show districts according to the recommendation of the chairman of the government show commission, who in advance has secured reports and recommendations from the chairman of the bull-show commissions. In the distribution are considered the number of animals which have been exhibited and have received premiums during the last year within the district, and the number of animals present at the last government show.

The government show commission prepares the necessary rules to guide the judges, thus assuring a uniform system of judging throughout the country.

The bull-show commission, however, decides upon the number and amount of premiums, the rules for distributing the same, and the place where the show is to be held. Furthermore, the commission judges the animals and distributes the premiums.

In awarding premiums the offspring of the competing animals are particularly considered, so that the principal part of the money expended is on account of the power of the bull to produce good offspring rather than for his individuality.

If a bull receives a premium the owner is under obligation to let the animal remain in the country for breeding purposes until the 1st of May the following year, which practically means for a year after the premium has been awarded, as all the shows are held during the summer months. In case the receiver of a premium decides to forego

this obligation, the premium is to be returned to the government treasury.

It is also the duty of the chairman of the bull-show commission to see that records are kept containing accurate descriptions as well as information in regard to the pedigree and offspring of the bulls receiving premiums. A report on these topics and a statement of the amount distributed in premiums and otherwise expended for the holding of the bull show in each district is sent to the minister of agriculture each year before the end of October.

The importance of the bull shows in developing the cattle breeders' associations and in improving the cattle of the country can not be overestimated. As previously stated, in the distribution of the prizes by far the most importance is placed on the offspring. It is not uncommon for a bull or a stallion which has been unable to take premiums as an individual to receive high awards when shown with offspring. These shows therefore give to bulls which may be lacking somewhat in form and general appearance, but which have the power to produce good offspring, a chance to be recognized and valued as they deserve. On the other hand, bulls which have ranked high before the age of 3 years may be entirely out of the show ring later if they can not produce good offspring. As the real value of a bull depends upon the quality of his offspring more than on his appearance, these shows have had a marked influence upon the rapid improvement of the cattle.

METHOD OF JUDGING AT SHOWS.

Many changes mark the development of the judging of cattle at shows. The scale of points on one of the first score cards in use was 24, giving 16 points for the escutcheon and 8 points for build and general appearance. This seemingly undue importance laid on the escutcheon was principally due to the Frenchman, Guenon, who at that time called special attention to the escutcheon as an indication of good milking capacity. The score card was gradually changed and broadened. More divisions in the scale of points were made as the importance of the different features which constituted a good dairy animal became clearer.

In 1887 the ancestors of the animals were for the first time considered in the judging, by giving 8 points in a scale of 72 for pedigree. In 1903 the government show commission revised the score card for dairy cattle as follows:

	Points.
Form and size	15
Quality and dairy temperament	12
Milking qualities	12
Pedigree	12
Total	51

The points given for pedigree were to be considered under the following heads:

	Points.
a. Detailed information in regard to ancestors	2
b. Premiums awarded to the animals mentioned in pedigree	3
c. The importance of the family in the development of the breed	3
d. Detailed information in regard to amount of milk and per cent of fat in milk	4
Total	12

In the judging of animals at fairs and shows it has become the aim more and more to place the animal according to its breeding value as shown by its offspring and by performance. Although the methods employed with this in view differ in various parts of the country, all are working toward this end. At a show held in Copenhagen in 1905 there was a class for herds of cows with authenticated records. In order to be eligible to this class heifers after the first calf had to show a record of at least 5,500 pounds of milk, with an average of 3.2 per cent fat. From heifers after second calf an average was required of at least 6,050 pounds for the two years, with 3.2 per cent fat, and for aged cows an average of 6,600 pounds of milk a year, with 3.2 per cent fat. In the herd contest the average per cent of fat in each herd exhibited was required to be at least 3.4 per cent. For every additional one-tenth of 1 per cent 1 point, not to exceed 9 points in all, was added to the total score.

The herd premiums were awarded first according to the appearance of the cows; then an additional premium was given for production. In the classification according to production, 330 pounds of butter was given 1 point, and an additional half point was given for each 11 pounds of butter over 330 pounds. Half a point was given for a fat content of 3.5 per cent, and for every additional one-tenth of 1 per cent half a point was added.[a]

Upon this scale the herds were recognized in the following classes:

Class I A	7 points or more.
Class I B	5 to 7 points.
Class II A	3 to 5 points.
Class II B	1 to 3 points.

[a] The customary method of calculating butter is as follows: The loss of fat in skim milk and buttermilk is estimated at 0.15 pound of fat in every 100 pounds of milk; and the butter is considered to contain 86 per cent butter fat. This gives the formula:

$$[(\text{Pounds of milk} \times \text{percentage of butter fat}) - (\text{pounds of milk} \times 0.0015)] \times \frac{100}{86} = \text{pounds of butter.}$$

By this method of judging both the quantity and the quality of the milk was taken into consideration as well as the individuality of the animals.

At an agricultural convention in the island of Funen in 1906, in order for a bull to compete for prizes it was required to present authenticated records of his dam for at least two years. Furthermore, her production had to be at least 198 pounds[a] of butter a year for her first and second years, and 275 pounds for the following years. After complying with these requirements the bulls could be entered in two classes, to be judged either for their individuality or for their offspring.

Not only in Denmark, but also in other European countries, much stress is laid upon pedigree and yield in the judging of dairy animals. In Sweden the following score card has been successfully used in the judging of young bulls:

	Points.
Pedigree	3
Yield of ancestors	3
Form, general appearance, and strength	3
Total	9

Under pedigree are especially considered the male ancestors and their power to transmit their characteristics, and under the yield of ancestors is considered the amount produced of both milk and butter.

That the above methods of judging can be carried out successfully is principally due to the cow-test associations, the records of which are taken as authenticated for this work. It has been a point for much discussion as to how much importance should be placed upon pedigree and how much upon records in the judging of an animal. To go from a system of judging on individuality alone to a system of judging almost entirely on the records would be going from one extreme to another. The fact that form is the result of function does not make the judging on individuality without foundation. However, by also placing due importance on the ancestors and their production, stress is laid upon those points that specially determine the value of the animal for both breeding and economic purposes.

MARKET PRICES OF BULLS AND CONDITIONS OF TRANSFER.

In 1906 the average price for bulls of the Jutland breed was $406.27, $152.76 of this being cash and $253.51 "on condition." The average for the Red Danish breed was $480.79, of which $192.69

[a] One Danish pound equals 1.102368 English pounds. The weights mentioned in this bulletin are all given in English pounds, taking 1.1 English as equal to 1 Danish.

was cash and $288.10 "on condition." The conditional part of the sale is explained as follows:

Since, in order to obtain government aid, bulls must be recognized at the shows receiving government support, it is common to buy bulls for a certain sum of money payable on delivery and an additional sum according to the recognition the bull receives in the show ring. A further sum may also be paid if the bull gets over a certain per cent of the cows he serves with calf or, in case he is shown the first time with offspring, if he receives a premium of not less than a certain rank. As it may take two years before some of the terms can be decided upon, the buyer is, of course, responsible and liable to the seller for the treatment the animal receives up to that time. The seller must furnish a guaranteed pedigree as well as health certificate, including test for tuberculosis, and also guarantee that the bull is in possession of his breeding power. The fact that the greater part of the purchase price of the animals depends upon conditions, as stated above, shows how the people value and are willing to pay for those qualities in the bull which can not be judged from his outward appearance, but which largely determine his value for improving the herd. (See Appendix, p. 38, for complete form of contract commonly used in sale of bulls.)

DIFFICULTIES ENCOUNTERED IN THE WORK OF THE ASSOCIATIONS.

Some of the difficulties the associations have had to meet and which in many cases hinder the good results to be expected from this work are:

1. The associations do not as a rule keep their bulls long enough.

Many of the associations keep their bulls only one, two, or at the most three years. This time is altogether too short to ascertain the real breeding value of the bull as shown by the offspring. The principal reasons for this frequent change of bulls are that many farmers fear evil effects from inbreeding, and that the bulls become either vicious or nonbreeders. That they become vicious is often attributed to the custom of changing the boarding place of the bull from year to year in order, perhaps, to save a few dollars on his keep. Often the bulls become nonbreeders due to overfattening, lack of exercise, or too heavy service when young.

The result of this frequent change of bulls, even of the same breed, is in many cases a hindrance to the development of the cattle industry in the community, since the offspring from year to year are lacking in uniformity.

2. Some associations have too large a membership.

It can readily be understood that if an association is too large in membership and in number of cows the benefit to the individual member becomes smaller. Associations having a membership of from 40 to 60, with from 300 to 400 cows and only 1 bull, will not be nearly so important as will the smaller associations. It is considered that a full-grown bull can be used on 125 to 150 cows a year if the time of calving is scattered throughout the year; but as a rule the cows are bred during a few months, and in such cases the ratio of cows to bulls should not be more than 50 to 1, especially if the association is aiming to keep the bull for several years.

3. Frequency of abortions.

Although all cattle breeders' associations have rules prohibiting cows that have aborted from being bred to association bulls, yet in many cases abortions have been spread by the bull from herd to herd. Abortion in a herd not only causes an immediate loss due to a lower production, but may check improvement in the herd for several years. To prevent the spread of the disease, not only is great care taken in disinfecting the bull after each service, but in some associations there is carried out a frequent systematic veterinary inspection and examination of all cows in the association.

4. Members do not always use the association bull.

In some communities the members may have to lead their cows a considerable distance to reach the association bull. This, as also the higher service fee, often causes members who are not fully alive to the importance of a well-bred bull in improving the herd to neglect to bring their cows to the association bull.

INFLUENCE OF CATTLE BREEDERS' ASSOCIATIONS UPON THE DAIRY INDUSTRY.

The influence of the cattle breeders' associations is especially marked along the following lines:

1. By organization and cooperation it became possible for the smaller farmers to obtain a rapid improvement in their herds, which otherwise would practically have been impossible.

2. They have constantly and forcibly demonstrated to the farmer the value of a purebred bull of recognized family in the improvement of the herd.

3. The herd books and records kept by the associations have taught the farmer to appreciate the value of a pedigree in the selection of breeding animals.

4. By cooperating with the cow-test associations and agricultural societies it has become possible to employ many cattle experts, who not only have acted as educators and advisers but to whom is due the credit for the uniform and systematic way in which this work is carried on throughout the country.

The important part played by the breeders' associations in the improvement of the cattle is quite noticeable at the fairs and shows. A few years ago the greater portion of the animals exhibited, especially bulls, belonged to individual farmers owning large herds. To-day not only do more bulls in the show rings belong to the breeders' associations, but these most frequently carry off the highest honors. By means of these associations a large number of the smaller farmers who could not afford to keep or buy a high-priced bull for a few cows have had an equal opportunity for improving their herds, as well as equal chances at the shows, with the farmers who own the large herds. Furthermore, they have added greatly to the interest taken in the shows and fairs, as each member of an association takes a personal interest and pride in having his association bull successfully meet the often very keen competition.

GROWTH OF THE INDUSTRY.

The number of cows in Denmark in 1866 was 812,000, with an average annual production of about 2,200 pounds of milk per cow. The number of cows in 1903 was 1,089,073, with an average production of 5,720 pounds. The average annual production at the present time is estimated to be about 6,600 pounds of milk per cow.

The increase in the production has been specially noticeable as the cooperative movement has taken hold of branch after branch of the cattle industry as well as other phases of agricultural work which indirectly would influence its development. The period from 1880 to 1883 will always be memorable in the history of Danish agriculture, because it marks the organization of the first cooperative creamery, the first permanent cattle breeders' association, the publishing of the first public herd book, and the appointment of the committee for the preservation and improvement of the Jutland breed. It also marks the period at which Denmark ceased to export grain, due to the fact that it proved more economical to feed it to the cattle. Since then not only has the grain raised in the country been fed to the live stock, but the importation of grain and concentrated feedstuffs has increased from year to year. In 1907 the imports amounted to 1,608 million pounds of grain, 987 million pounds of oil meal and oil cake, and 131 million pounds of bran and gluten, a total of 2,726 million pounds. The larger portion of this large total of feedstuffs has been used in the production of butter, of which, in 1907, 200,069,200 pounds were exported to England. But in addition it has added thousands of dollars worth of plant food to the soil. The fertility once lost through the marketing of the grain from the farms has not only been replaced, but in many sections the soil is richer, and is at present producing larger crops than ever in the past.

It is well to remember that the great improvement effected in Danish cattle has not been brought about by importation of high-priced animals from other countries, but is simply due to organization and cooperation, careful selection, systematic application of the principles of breeding, and good care and liberal feeding of the cattle. It is the result of having a definite purpose in view which is never lost sight of. The Jutland cow, once primarily kept for the production of beef, has been changed into a profitable dairy cow. The average annual production of the Red Danish cows, according to the creamery statistics for the island of Funen in 1907, was 6,930 pounds per cow, an amount that will compare favorably with any dairy breed.

ACKNOWLEDGMENTS.

The author desires to acknowledge the great courtesy received in Denmark, not only from the officials and experts connected with the agricultural department and the agricultural societies, but on every hand where information was sought. He is especially indebted to Lars Frederiksen, one of the cattle experts employed by the Jutland Agricultural Society, for the valuable references given to agricultural reports and to other agricultural literature.

The following literature has been made use of in preparing this bulletin:

Konsulentberetning ofjydske Landboforeninger, 1905. S. P. Petersen.
Husdyrbrug of 1906. Axel Appel.
Kvaegavl og Kvaegopdraet. A. Svendsen.
Landokonomisk Aarbog, 1907. H. C. Larsen.
Kvaegbrugets Udvikling i Danmark, A. Appel og P. A. Morkeberg.

APPENDIX.

BY-LAWS FOR CATTLE BREEDERS' ASSOCIATIONS UNDER COMMON MANAGEMENT ON THE ISLAND OF FUNEN.

SECTION 1. The aim of the cattle breeders' association is to produce the sure and rapid development of a sound, well-built, productive, Red Danish breed of milch cows. The aim shall be reached principally by the purchase of meritorious herd bulls, by selecting the best dams (the selection being, as much as possible, based on information about yielding capacity and pedigree), by a rational treatment of the offspring, and by the holding of local shows according to rules stated below.

SEC. 2. (*a*) Every cattle breeder within the district is eligible to membership who subscribes to these by-laws and has in his herd at least one cow which is considered by the management of the association to be worthy of joining the ranks of the breeding animals.

(*b*) Members who join later enter with rights and obligations in proportion to and in accordance with the state of affairs approved by the last general meeting.

SEC. 3. Members may be accepted at any time on application to the chairman or a member of the board of directors.

SEC. 4. Withdrawals from the association can take place only on the 1st of April of each year, and notification in writing must be sent to the chairman not less than one year in advance and be receipted for. From the day of receipt of the notification the member shall have no vote.

SEC. 5. The management of the association shall be vested in a board of directors of ——— members, elected for four years by the general meeting. From the board of directors, which elects its own chairman, ——— members shall retire, alternately, every other year; the first time the retirement shall be by lot, later according to turn. Reelection is permitted.

The district of the association shall be divided into circuits, with a member of the board as manager of each circuit.

SEC. 6. The members of the board of directors shall see to the enforcement of the laws and take care of the affairs of the association. When the chairman or three of the members desire, meetings of the board shall be held. Both at these and at the general meetings records shall be kept.

The board shall select, purchase, offer for service, exclude, and sell the herd bulls of the association, select the cows of the members, act as judges at the local shows, and give the members advice regarding their bookkeeping.

The chairman shall call the meetings of the board of directors, decide when and where they shall be held, preside at the same, and keep the minutes. He shall represent the association, keep its correspondence and accounts, and act as its treasurer. He shall be responsible for the funds of the association intrusted to him and endeavor to make them profitable.

The circuit managers shall work for the benefit of the association in their respective districts and pay strict attention to the work there. The board of directors or a committee of the members shall, once a year, inspect the herds of the members on their farms.

SEC. 7. The herd bull must be sound and well built, of Red Danish milking breed, and recognized good pedigree. He shall be insured, and twice a year shall be examined by a veterinary surgeon. He should not be utilized for breeding purposes until he reaches the age of 1¾ years. When purchasing bulls, the association should secure guarantee of breeding capacity. The bull shall be exhibited every year until he shall have received premiums on account of his offspring. Until the age of 3 years he shall be exhibited at a breeding association show subsidized by the Government; and after the age of 3 years at the government show. He shall also be exhibited at the local shows.

SEC. 8. The members are entitled to have their cows served by the association bull, provided that the cows are not subject to abortion, are otherwise healthy, and are approved by the board of directors.

SEC. 9. The fee for service shall be determined every year by the board of directors, and shall be paid by the members in proportion to the number of their eligible cows.

SEC. 10. Every member must keep the records directed by the board of directors and is bound to exhibit, at the local shows arranged by the board of directors, all selected cows and their offspring by the association bull until the heifers become pregnant for the first time and the bulls reach the age of 2 years. Calves less than 3 months old need not be exhibited. Each calf shall be earmarked with the number of its dam, according to a method adopted by the management.

The members shall be bound on the demand of the board of directors to exhibit the offspring of the association bull, if such are in existence, at the annual offspring shows preceding the government shows.

SEC. 11. The cows shall be selected and a record kept in the selection book. The selection shall be conducted under proper supervision,[a] but may take place at any time of the year, and either at the farms or at the local shows.

Only healthy animals shall be admitted. According to their characteristics they shall be divided into two classes, A and B, the former of which includes animals *especially* suited for breeding and the latter comprises animals which *may* be utilized for breeding purposes. Every animal shall have its number branded on the back of the right horn. Cows of class A also have an A branded on the back of the left horn. Branding may be dispensed with when the cows are otherwise marked in a safe manner.

SEC. 12. The board of directors fixes the time and place of the local shows, and notifies the members eight days in advance. Any cows excluded by the circuit manager, with the acquiescence of the owner, need not be exhibited, as they are considered stricken out.

SEC. 13. The fiscal year of the association shall run from the 1st of April to the 31st of March. The chairman shall deliver his accounts, and they shall be returned to him in the course of eight days.

For accounts relating to the individual cows and the association bulls the adopted forms are used. When the selected cows have been accepted by a cow-test association, the forms of the latter are used.

SEC. 14. A regular general meeting shall be held once a year after eight days previous notification. At the annual meeting the audited accounts shall be produced, and the chairman shall give a short report of the work of the association during the past year. Furthermore, new members of the board of directors shall be elected to succeed the retiring members and also two auditors.

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[a] See law on domestic animals, in Appendix, paragraph 14.

All questions except those mentioned in section 16 are decided upon by a majority vote. The votes must be delivered in person. At the general meeting all matters or questions communicated to the chairman in writing at least four days prior to the meeting, or proposed by the board of directors, are discussed and acted upon.

Extra general meetings may be called by the board of directors, and must be called when one-third of the members so desire. The call shall be issued as aforesaid.

SEC. 15. The members are jointly responsible for all debts contracted in accordance with the action of the general meeting and for deficits in the annual accounts or in the settlement of the financial affairs of the association when such settlement has to be made on account of the death or sale of bulls or for any other reason; each individual's liability being in proportion to the greatest number of cows registered as belonging to him at any time during the fiscal year, regardless of whether some of them were sold, killed, or stricken out. At withdrawals the withdrawing member, in order to be relieved of his liability, must pay the proportionate portion of the debt of the association, according to a statement rendered by the board and approved by the general meeting. He shall not be entitled to any portion of a possible surplus.

SEC. 16. The dissolution of the association can only be agreed upon by a general meeting where three fourth of the members are present and when three-fourths of those present vote in favor thereof. If no quorum should be obtained by the first call, a new general meeting shall decide by a majority vote, regardless of the number of members present.

LAW RELATING TO INSTITUTIONS FOR THE PROMOTION OF THE BREEDING AND KEEPING OF DOMESTIC ANIMALS.[a]

The institutions named below, for the promotion of the breeding and keeping of domestic animals, shall be aided by government subsidies as follows:

DISTRIBUTION OF PREMIUMS AT SHOWS.

1. The provincial agricultural association fairs or shows may receive a subsidy which, with the restriction named in section 3, shall be equal to the amount the associations themselves appropriate for premiums for breeding animals. Agricultural associations holding their annual shows in common may receive, subject to the discretion of the minister of agriculture, a further aid of 10 per cent of the amount named. (See secs. 2 and 3.)

2. Shows in common. (See secs. 2 and 4 to 6.)

(*a*) The shows conducted by associations under common management may be aided to the amount of twice as much as the interested associations themselves contribute for prizes at these shows.

4. Government shows for bulls may receive the amount of 75,000 kroner ($20,100). (See secs. 2 and 7 to 11.)

BREEDING ASSOCIATIONS.

6. Cattle breeding associations may receive 150 kroner ($40.20) for each bull belonging to the association. (See secs. 12 and 14.)

7. Breeding associations specially apt to develop good strains may receive sums up to 20,000 kroner ($5,360). (See sec. 15.)

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[a] Only those clauses which influence the cattle industry are here quoted.

OTHER INSTITUTIONS RELATING TO THE BREEDING AND KEEPING OF DOMESTIC ANIMALS.

9. Test associations may receive up to 250 kroner ($67) each; not, however, to exceed a total amount of 120,000 kroner ($32,160). (See sec. 17.)

10. For competitions between entire herds there may be appropriated an amount of not more than 25,000 kroner ($6,700). (See sec. 18.)

13. For the publication of herd books, an amount of not more than 20,000 kroner ($5,360). (See sec. 21.)

14. For experts in breeding, a subsidy of sums up to three-fifths of their annual salaries; not, however, to exceed 30,000 kroner ($8,040). (See sec. 22.)

15. Institutions not included in those above named, but aiming at the promotion of the breeding and keeping of domestic animals, and in the judgment of the minister of agriculture deserving support, shall receive an amount not to exceed 40,000 kroner ($10,720).

Furthermore, the Government shall defray the per diem and transportation expenses of the chairmen of the bull and stallion show commissions, of the judges at the government shows, and of the supervisors of the shows of the breeding associations, and the expenses connected with the publication of the reports of the government show commissions.

AID FOR PREMIUMS AT SHOWS.[a]

SEC. 2. In awarding premiums according to this law, everything else being equal, the first animals to be considered shall be such as have prominent marks of their breed, have reliable and instructive pedigree records, and belong to good, and as far as possible, pure breeds and families.

It shall also be looked after that animals having received premiums at one show shall not receive such at another show in the same year; the cooperative shows mentioned in section 1, paragraph 2, and shows at agricultural conventions, however, excepted.

SEC. 3. The government aid mentioned in section 1, paragraph 1, shall, in the proportion there stated, be distributed by the minister of agriculture among the agricultural associations working for the promotion of the breeding and keeping of domestic animals; provided, however, that no association which has not been in existence for one year, and has not at least 150 contributing members, with annual contributions aggregating at least 300 kroner ($80.40), shall receive government aid (provided, however, that the minister of agriculture, when special geographical conditions make it desirable, may ignore this rule); and further provided, that the number of kroner in the subsidy shall not be more than four times the number of contributing members in the association.

The amounts appropriated may be used for premiums and recognition money[b] for:

Bulls between 1 and 3 years old.

Cows and heifers; provided that individual cows or heifers shall not receive prizes when belonging to herds of more than six milk cows.

Herds of at least three members, the female animals of which must have been born in the ownership of the exhibitor, or else reared by him, and in the latter case must have been bought by him before they were 3 months old; and family groups of cattle.

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[a] Section 1 is a summary of the provisions stated in more detail in section 2 and following sections.

[b] The term "recognition money" is explained on p. 16.

Bulls under 2 years of age and mares under 4 years can be awarded recognition money only.

The amount by which the subsidy may be increased for associations which, instead of holding their shows separately, hold a yearly show in common,[a] may by the minister of agriculture be allowed to be used for either premiums or expenses.

The award of premiums, both at the shows of single associations and at shows held under common management, shall be made by a judging committee chosen by the association. Associations which desire to be considered in the allotment of subsidies from the government treasury must, before the end of March, make application therefor to the minister of agriculture, the application to be accompanied by information as to whether they fulfill the conditions required for the granting of subsidies, and as to the size of the fund which the associations themselves have decided to distribute during that year in premiums.

The time for holding shows is to be determined by the associations holding same, after consultation with the government show commissioner for the district in which each association is located. (See Sec. 11.)

Premiums may be awarded only to such animals as are pledged to be kept in the country for breeding purposes for at least one year after the payment of the premium. If any such animal is sold abroad before the expiration of one year the premium shall be refunded.

In other details the rules for distribution of premiums shall be made by the associations themselves. At every distribution a record must be kept in which all animals that are awarded premiums shall be noted, with a short description of their breeding and characteristics, on forms approved by the minister of agriculture. An extract from this record shall be sent each October to the minister of Agriculture, who thereafter will demand the return of such subsidies as any association may not have used or which are distributed or kept contrary to the foregoing regulations.

SEC. 4. The aid mentioned in section 1, paragraph 2a, shall be distributed, in the proportion there stated, by the minister of agriculture, as premiums at the shows held by associations under common management, which, besides the kinds of animals mentioned in section 3, may comprise other gatherings of horses and cattle and, with a regular intermission of three years, older stallions and bulls.

SEC. 7. The amount of 75,000 kroner ($20,100) mentioned in section 1, paragraph 4, shall be used for premiums for bulls, only bulls more than 3 years old and still strong and in possession of full breeding capacity being eligible.

In every show district shall be held an annual stallion show; while the bull-show commissions in one or more connected show districts, when conditions make it desirable, shall hold annual shows for smaller districts, the number of which must not exceed the number of counties (Amtsraadskredse) in said show district or districts, and the boundaries of which, as much as possible, shall coincide with those of the counties, provided that considerations as to the kind of herds or geographical conditions do not necessitate other boundaries. The division into districts must be approved by the minister of agriculture, and can not be changed without his consent, after a new general election of bull-show commissioners. Changes in the district divisions necessitated by the appearance of contagious diseases may be made by the minister of agriculture.

The amount appropriated by the Government for premiums for stallions and bulls shall be distributed by the minister of agriculture among the show dis-

[a] As provided in section 1, paragraphs 1 and 2*a*.

tricts, according to recommendation from the chairman of the government bull-show commission, who shall secure reports and recommendations in advance from the chairmen of the stallion [a] and bull show commissions, which reports and recommendations shall be forwarded to the minister of agriculture at the same time as the recommendation of the chairman.

In the distribution shall be considered the number of animals that have been exhibited and have received premiums during the preceding year and the statistical information gained by the last enumeration of cattle at the last government shows, which information shall be forwarded by the chairman of the government show commission to the chairmen of the stallion and bull show commissions, who at the same time shall be requested to report.

SEC. 8. The government shows shall be managed by stallion and bull commissions, respectively, the chairmen of which shall be appointed by the minister of agriculture, and the other members of which shall be elected for a term of three years by the county boards from among the men proposed by the agricultural associations indicated below.

To the bull commissions two members and two alternates shall be elected by the county boards in the show districts. In case of a tie vote the election shall be decided by lot. Three months prior to the election the county chairman shall request each agricultural association in the district which has 150 members, in the previous year has appropriated at least 300 kroner ($80.40) of its own means for premiums, and holds annual shows, to propose in writing a number of members and alternates equal to the number to be elected by the county board, and from among that number the members shall be chosen. If there should be only one agricultural association in the county, the latter shall propose twice as many members and alternates as the county board shall elect. Each and every stallion and bull show commission shall from among its members elect a secretary, who shall act until the following year's stallion or bull show shall have been held.

SEC. 9. The stallion and bull show commissions shall decide upon the number and amount of premiums, the rules for distributing the same, the place where the show shall be held, and the expenses necessary.

These decisions, as well as the changes in and amendments to the same, adopted by the commission shall be published by the commission.

. The government show commission shall prepare the necessary rules to guide the judges.

The commissioners shall act as judges at the horse and bull shows, respectively, and shall distribute the premiums.

In awarding premiums the offspring of the competing animals shall be particularly considered, so that the principal part of the amount shall be expended for premiums for good offspring.

Bulls that have received premiums may be branded with the mark of the commission, but only when the owner so desires.

Whoever receives a premium thereby assumes the obligation to let the animal, having been considered worthy of it, remain in the country for breeding purposes, if it is a bull, until the 1st of May of the following year.

Should the receivers of premiums neglect to fulfill this obligation, the premiums shall be returned to the treasury, unless the minister of agriculture shall admit that special reasons for such neglects have been proved. Amounts of premiums to be returned according to this regulation may be collected by legal proceedings.

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[a] Stallion show commissions and bull show commissions are independent commissions having separate funds for distribution. Sums of money quoted are used for promoting cattle industry only.

SEC. 10. The chairmen of the stallion and bull show commissions shall determine the time for holding stallion and bull shows. They shall preside at the meetings of the commissions and, with the assistance of the secretaries, keep records which, among other things, shall contain accurate descriptions of the stallions and bulls that have received premiums, and information regarding their pedigree and offspring. The chairmen shall receive the amounts appropriated for premiums by the Government and distribute the same. They also, before the end of October of each year, shall send to the minister of agriculture a complete report of the results of the shows, accompanied by a transcript of the records and a statement setting forth the amount distributed as premiums and expended for the holding of stallion and bull shows, etc.

The secretaries of the commissions, who on the whole shall take care of the preliminary preparation of the shows, shall advertise for not less than two weeks prior to the holding of the show, in the most widely circulated newspapers in the district, the place, the time, and the amount of premiums.

SEC. 11. The chairmen of the stallion and bull show commissions, in connection with the government expert in breeding of domestic animals, under the presidency of a man appointed by the minister of agriculture, shall form a government show commission, through which the supervision provided for in section 3 in the present law shall be conducted in such a way that the full commission shall divide the associations among its members, and one of the commission chairmen shall be present at each association show, with the right to take part in the deliberations and votes of the judging committee.

The government show commission shall hold a regular annual meeting, at which questions of importance for the work of the commission shall be brought up and discussed, and issue an annual report.

AID TO BREEDING ASSOCIATIONS.

SEC. 12. The aid to breeding associations discussed below shall be distributed by the minister of agriculture and only be given to associations, the aims of which are recognized as good and useful and which are recommended by the common management associations of the province. Applications for aid shall be sent through the latter.

The breeding associations are, as far as the application of the government aid is concerned, subjected to the supervision of the minister of agriculture.

Should an association dissolve during the fiscal year for which government aid has been received, the minister of agriculture shall be entitled to claim the reimbursement of the amount or a proportionate part of the same; for this reimbursement the members of the board of directors are jointly (one for all and all for one) responsible.

SEC. 14. The cattle breeders' associations referred to in section 1, paragraph 6, in order to be eligible for government aid, must have their by-laws approved by the minister of agriculture. The by-laws must contain provisions to the effect that the cows of the members shall be selected under proper supervision, that the bull shall be examined twice a year by a veterinarian, and that the herds shall be inspected at their homes at least once a year by the board of directors or a committee of its members. The government aid shall be granted for a specified bull that must have received a premium or recognition money [a] at a government show or at a breeding association show supported by the Government. Besides, the bull, until he shall have received offspring premium, must receive every year a premium at a breeding association show or, after having reached the age of 3 years, must at least be considered worthy of a premium

[a] See p. 16.

at a government show, unless special conditions should make this impossible, in which latter case the fact must be certified to by the chairman of the district show. No aid shall be granted before the bull reaches the age of 1¾ years; and only as long as the bull owned by the association shall be in possession of his full breeding capacity.

The annual amount, counting from the day the bull was received by the association, shall be 150 kroner ($40.20) for each bull; provided, however, that in proportion to the number of bulls the amount intended for breeding associations under a common provincial management shall be distributed in amounts ranging from 130 kroner ($34.84) to 170 kroner ($45.56), according to a classification adopted by the common management at which the good qualities of the bull as well as the work of the association in general shall be considered.

If the bull should be sold, the government aid shall be kept without discount, provided, that the association, within two months after the sale, shall purchase another bull meeting the requirements named above.

SEC. 15. The amount of aid mentioned in section 1, paragraph 7, may be utilized by the minister of agriculture for the further encouragement of breeding associations which, by the exhibition of excellent young animals, prove themselves to possess special adaptation for the development of valuable strains of cattle.

The passing of judgment on the young animals shall occur at the offspring shows conducted by the bull-show commissions, and with the commissioners as judges.

The aid, granted in amounts ranging from 50 kroner ($13.40) to 150 kroner ($40.20), shall be distributed according to the recommendation of the interested common-management associations.

In case the associations here mentioned have assistants to keep herd books and accounts of the yield and feeding of the individual cows, they may, in accordance with section 17, be granted additional aid as cow-test associations.

AID TO OTHER INSTITUTIONS CONCERNED IN THE BREEDING AND KEEPING OF DOMESTIC ANIMALS.

SEC. 17. The aid mentioned in section 1, paragraph 9, shall be distributed by the minister of agriculture, in the proportion there indicated, to cow-testing associations which have as their aim to instruct cattle owners, increase the profits of cattle breeding, and promote the development of cattle breeds whose milk will yield an increased amount of butter; such efforts being made on the basis of investigations into the feeding, milk yield, and fat content of milk of individual cows.

Such associations must have at least 8 members and 200 cows; but the minister of agriculture may dispense with the requirement of such a number of members or cows, either in consideration of the scattered population of the locality and special local conditions, or because the association in question has taken up the work of testing and other branches of the trade, closely connected with the principal aims, or, finally, when breeding associations of the kind mentioned in section 15 are concerned.

Associations having a sufficient number of members and cows to form more than one association, and employing more than one assistant, may, at the discretion of the minister of agriculture, receive aid as more than one association.

Cattle breeders' associations or mergers of such, with cows to the number of 150, which have taken up the testing and examination of the yield and feeding of the cows, may secure aid as cow-testing associations.

The by-laws of the associations must be approved by the minister of agriculture, to whom applications for aid should be sent, accompanied by a declaration from the common-management association of the province.

SEC. 18. The aid mentioned in section 1, paragraph 10, may be used by the minister of agriculture for holding competitions between entire herds.

The passing of judgment shall be based on a two years' competition conducted by the common-management association of the district.

In passing judgment, besides the appearance and yielding capacity, the ability of the individuals to transfer the characteristics and good qualities of the breed to the offspring should be considered.

Judgment shall be passed by committees, each consisting of three members, one of whom shall be appointed by the minister of agriculture and the other two by the breeding association which conducts the competition.

The results of the competition shall be published.

Two-thirds of the expenses connected with the competition shall be defrayed by the Government and one-third by the interested associations, in cooperation with the competing members.

SEC. 21. The amount of 20,000 kroner ($5,360) provided for in section 1, paragraph 13, may be expended by the minister of agriculture in publishing herd books kept by the cooperative Danish agricultural associations; and if the whole amount should not be expended for that purpose, then, on the recommendation of the interested common-management association, a portion of it may be expended for promoting by other means the keeping of herd books for cows by the agricultural associations or the common managements of breeding associations.

SEC. 22. The amount provided for in section 1, paragraph 14, for association experts shall be distributed by the minister of agriculture in the proportion there named for salaries to experts for one or more breeding associations and common managements of cow-test associations.

The government aid shall be subject to recommendation from the common-management association of the province.

The associations or the common managements shall take care that the experts render an annual report, according to further directions from the minister of agriculture, illustrating the work of the experts, and that they take part in the combined meetings of government and association experts called by the secretary.

SEC. 23. With the permission of the minister of agriculture, and on terms fixed by him, on recommendation of the interested common-management association, associations working for the improvement of the breed may hold voluntary public auctions for the sale of breeding animals without the interference of the director of auctions and without paying fees.

FORM OF CONTRACT USED IN THE PURCHASE OF BULLS.

The following contract is this day made in regard to the bull_____
(Name of bull.)

owned by_____and dropped_____
(Name of owner.) (Day and year.)

at_____by_____
(Place of birth.) (Dam's name and number.)

This contract is made on the following conditions:

SECTION 1. The seller is to deliver the bull at his own expense and risk, at

_____
(Time and place of delivery must be definitely agreed on.)

SEC. 2. At the time of the delivery of the bull the seller will furnish to the buyer:

(*a*) The pedigree of the bull. If the seller has himself reared the bull, he guarantees by his signature on the pedigree the accuracy of the information therein contained. If he has not reared the bull himself, the accuracy of the pedigree must be attested in such manner as the buyer agrees to when the bargain is made.

(*b*) A veterinarian's certificate of the health of the bull at time of delivery, in which it must be specially noted that the tuberculin test has been applied, with favorable outcome. If there is anything lacking in the bull's condition of health, and the buyer is for that reason unwilling to accept the bull, this contract shall become void and neither of the contracting parties shall have any claim against the other.

SEC. 3. The seller guarantees that the bull is willing to serve and able to get calves. If the bull, in spite of proper care, proves to be, in the judgment of the buyer, not sufficiently able to serve and get offspring the first year, the seller will take the bull back again and refund two-thirds of the sum received in accordance with section 4, A, of this contract, and all the conditional payments described in section 4, B, shall thereupon be canceled.

SEC. 4. The purchase price is agreed upon as follows:

A. When the bull is delivered the buyer shall pay ——— kroner.

B. In addition, the buyer shall pay upon the conditions named below the following amounts (conditional payments):

(*a*) If there are found amongst the cows served by this bull not over —— per cent of farrow cows in any one of the first ——— years, then the buyer shall pay ——— kroner for that year; and this clause shall hold good for each separate year of the number of years specified.

(*b*) If the bull is awarded first-class recognition money[a] at the cooperative shows of the island of Funen, the buyer shall pay ——— kroner.

(*c*) If the bull is awarded first, second, or third premium at the government show for bulls in the year ——, the buyer shall pay ——— kroner. (The year following the show indicated in (*d*), next paragraph.)

(*d*) If, on the first occasion when offspring of this bull is exhibited at a government bull show, the bull is awarded an offspring premium of at least second class, first degree, the buyer shall pay ——— kroner.

The conditional payments agreed upon under (*a*) shall be due without notice every year on the first day of October, beginning with October 1, ——. The amounts agreed upon under (*b*), (*c*), and (*d*) shall likewise be due without notice eight days after the above-mentioned recognition money[a] or premiums are awarded to the bull.

All payments shall be made at the residence of the seller, or at any other place which he may designate in this country, without expense to the seller.

SEC. 5. The buyer shall exhibit the bull at the shows named in section 4, unless prevented by ill health on the part of the bull, which must be certified by a veterinarian. In case the bull's ill health prevents exhibiting him, all conditional payments provided for in section 4, B, shall be suspended, but the obligation nevertheless remains upon the buyer if the bull in that year wins any of the awards mentioned in section 4, (*b*) and (*c*).

Should the buyer neglect his obligation to exhibit the bull as agreed, he shall be bound nevertheless to make the payments agreed upon in section 4, (*b*) and (*c*), when they become due.

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[a] See p. 16.

SEC. 6. The buyer shall keep the bull in proper condition of feed for breeding purposes, and give him in all respects good and reasonable care, and keep him covered by life and accident insurance to the amount of his full value.

SEC. 7. Should it be shown that the seller has delivered to the buyer an incorrect pedigree or a false veterinarian's certificate, or that the seller has in any other way given to the buyer false information about the bull, the buyer may annul the contract, and the seller (even if he has acted in good faith) shall be bound to take back the bull and refund the money he has received in accordance with section 4, A; and, furthermore, must pay the buyer for stable room, feed, and care an allowance of ——— kroner for every day which has passed since the delivery of the bull to the buyer until his return delivery to the seller; and neither of the parties shall thereafter have any further claim upon the other.

If the seller knowingly furnishes a false pedigree, veterinarian's certificate, or other information, the buyer may annul the contract, and the seller shall not only refund the sum received according to section 4, A, and reimburse the buyer for stabling, feed, and care, as provided in the first paragraph of this section, but he shall moreover pay the buyer damages to the extent of 1,000 kroner.

SEC. 8. Should the seller fail to fulfill this contract, by not delivering the bull, or by not delivering him at the time and place agreed on, even if such failure be not the fault of the seller, the buyer shall have the option of demanding that the contract be fulfilled or annulling the contract. In either case the buyer shall have the right to demand damages for any loss suffered by such nonfulfillment, and particularly for traveling expenses, loss of time, and hotel bills, incurred in the trip to and from the place of delivery. Should the seller refuse to deliver the bull, or be unable to do so (for instance, by reason of having sold him to some other party), he shall be bound to pay damages in the minimum amount of 200 kroner, and more if the buyer's loss shall actually amount to more.

SEC. 9. Should the buyer be deprived of the bull (by the operation of this contract or by nonfulfillment of the contract on the part of the seller), then the seller, even if he has acted in good faith, shall be bound to refund all money received, and furthermore to pay damages of at least ——— kroner.

If the seller has known in advance that the bull would not be available, he shall, besides refunding all money received, be bound to pay damages of at least 1,000 kroner.

SEC. 10. Should either party refuse or neglect to fulfill the provisions of this contract (including section 9), he shall be bound, whether with or without suit at law, to pay all expenses of collection, including attorneys' and collectors' fees, traveling expenses, and other expenses of collection, even if the amount of the claim should be less than 200 kroner. In regard to this the provisions of the law of August 6, 1824, are expressly waived. The violator shall in addition pay interest on said sums which are to be paid or refunded by him, at the rate of 6 per cent per annum, which interest, on the amounts agreed upon in section 4, is to be calculated from the day when such amounts become due, and on other amounts from the date of the first demand.

(Place and date.)

(Signature of seller.)

(Signature of buyer.)

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